DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD
2461 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22331-0600

25 SEP 1990

DDESB-KT

MEMORANDUM FOR DIRECTOR, US ARMY DEFENSE AMMUNITION CENTER AND SCHOOL, ATTN: SMCAC-ESL, SAVANNA, IL 61074-9639

SUBJECT: Revised Technical Data Package (TDP) for the Agan Steel Panel (ASP) Walling System

1. Reference:

a. USADACS memo, SMCAC-ESL, 13 September 1990, SAB.

b. USADACS memo, SMCAC-ESL, 12 July 1990, Subject: Agan Steel Panel (ASP) Walling System.

2. Based upon information submitted by reference 1a concerning a revised TDP for the subject system, this office concurs with the USATCES recommendation that the DDESB approval for the subject system TDP provided to this office by reference 1b, be also applicable to the revised TDP.

JACK MATHEWS
Colonel, USAF
Chairman

CF (wo/encl):
Office of the Chief of Staff, U.S. Army, ATTN: DACS-SF, Washington, DC 20310-0200
Commander, U.S. Army Safety Center, ATTN: CSSC-PR, Fort Rucker, AL 36362-5363
Commander, U.S. Army Armament, Munitions and Chemical Command, ATTN: AMCPM-AL, Picatinny Arsenal, NJ 07806-5000

DEPARTMENT OF THE ARMY
US ARMY DEFENSE AMMUNITION CENTER AND SCHOOL
SAVANNA, ILLINOIS 61074-9639

REPLY TO
ATTENTION OF:

SMCAC-ESL (385[A])

13 SEP 1990

MEMORANDUM FOR Chairman, Department of Defense Explosives Safety Board, ATTN: DDESB-KT, 2461 Eisenhower Avenue, Alexandria, VA 22331-0600

SUBJECT: Revised Technical Data Package (TDP) for the Agan Steel Panel (ASP) Walling System

1. Reference memorandum, U.S. Army Defense Ammunition Center and School (USADACS), SMCAC-ESL, 12 July 1990, subject: Agan Steel Panel (ASP) Walling System.

2. A revised TDP for the ASP walling system (enclosure) is forwarded for your review. No change to the technical data was noted. The corporation that held the patents on the ASP walling system has sold out or been taken over by another corporation. The changes to the TDP entail changing one corporation name for another and some minor wording regarding who has the legal rights to sell the ASP walling system.

3. The revised TDP does not change any of the hard data. Therefore, the U.S. Army Technical Center for Explosives Safety (USATCES) recommends that the approval be IAW referenced memorandum.

4. Point of contact (POC) is Mr. Greg Heles, SMCAC-ESL, DSN 585-8877.

FOR THE DIRECTOR:

GARY W. ABRISZ
Chief, Logistics Explosives
Safety Division

Encl
as

CF (wo/encl):
Office of the Chief of Staff, U.S. Army, ATTN: DACS-SF, Washington, DC 20310-0200
Commander, U.S. Army Safety Center, ATTN: CSSC-PR, Fort Rucker, AL 36362-5363
Commander, U.S. Army Armament, Munitions and Chemical Command, ATTN: AMCPM-AL, Picatinny Arsenal, NJ 07806-5000

KT3 ~~fyis~~?

JK
AO CEC
KO
KT
KA
KN
KAF
Kt Review

DDESB-KT (SMCAC-ESL/12 Jul 90) 1st End Dr. Canada/325-8624//tm
SUBJECT: Agan Steel Panel (ASP) Walling System

Department of Defense Explosives Safety Board, 2461 Eisenhower Avenue, Alexandria, VA 22331-0600 18 SEP 1990

FOR DIRECTOR U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL, ATTN: GREGORY HELES, SAVANNA, IL 61074-9639

1. The subject safety submittal has been reviewed with respect to explosives safety. The proposed ASP barrier system to limit an MCE to one truck is approved provided:

a. The configuration of uploaded trucks, munitions, and the ASP system are to be as defined in your Enclosure 3, "Ammunition Quickload Program, Barriers for Truck Protection", 10 Aug 1989, by Jerry L. Watson and Phillip J. Peregino.

b. Only 155mm projectiles (M107 or M483) and their associated propellant charges may be stored on these uploaded trucks.

c. The maximum number of 155mm projectiles and associated propellant charges shall be one hundred and sixty (160).

d. Inhabited Building and Public Traffic Route distances are 1800 and 1080 feet respectively except as authorized by Chapter 10 of DOD 6055.9-STD.

WD ALL ENCLS

JACK MATHEWS
Colonel, USAF
Chairman

Copy to KO no!
File under Quick Load
AD

File KO

DDESB-KT

13 Aug 1990

MFR

Subj: Agan Steel Panel (ASP) Walling System

1. This request for approval involves one the concepts in the Army, Quickload Program where protective constructions are used to limit the credible MCE to one truckload even though trucks are parked in close proximity to each other. This concept involves an Agan Steel Panel (ASP) barrier concept tested by the Project Manager for Ammunition Logistics at the TERA Group, Socorro, NM.

2. SMCAC-ESL recommends that we approve the concept but limit its use to those munitions actually tested because no supporting evidence is provided to support claims that the ASP system will also be effective with untested munitions. The POC agrees with this rationale.

3. Munitions actually tested included M107 (Comp-B and TNT loaded), M483, M3A1, and M4A2 units whose combined explosives weight was about 2500 pounds. The specific recommendation is to approve the ASP, Quickload Concept for up to 160 each, 155mm projectiles (M107 and/or M483) and their 160 propellant charges (M3A1 and/or M4A2). The configuration of the munitions and the trucks and the design, material specifications, and construction method for the ASP barrier system are all defined in Enclosure 3 of the safety submittal. This enclosure is "Ammunition Quickload Program, Barriers for Truck Protection", 10 Aug 1969, by Jerry L. Watson and Phillip J. Peregino.

4. The ASP concept was successfully tested as explained above. No detonations were propagated to the acceptor munitions.

5. The POC recommends approval of the ASP barrier concept for trucks as defined in Enclosure 3 but only for a) M107 or M483, 155mm projectiles and their associated M3A1 or M4A2 propellant charges and b) for a maximum of 160 each projectiles and 160 each propellant charges per truck. One exception to the recommendation in Enclosure 3 is that IBD and PTR distances are 1800 and 1080 feet respectively.

6. POC for this action is Dr. C. E. Canada (AV 221-8624).

Dr. C. E. Canada

Dr. C. E. Canada, DDESB/KT3

DEPARTMENT OF THE ARMY
US ARMY DEFENSE AMMUNITION CENTER AND SCHOOL
SAVANNA, ILLINOIS 61074-9639

REPLY TO
ATTENTION OF:
SMCAC-ESL (385[A])

12 JUL 1990

MEMORANDUM FOR Chairman, Department of Defense Explosives Safety Board, ATTN: DDESB-KT, 2461 Eisenhower Avenue, Alexandria, VA 22331-0600

SUBJECT: Agan Steel Panel (ASP) Walling System

1. Reference memorandum, Project Manager-Ammunition Logistics (PM-AMMOLOG), AMCPM-AL, 11 September 1989, subject: Barrier for Truck Protection (enclosure 1).

2. U.S. Army Technical Center for Explosives Safety (USATCES) submits, with recommendation for approval, the enclosed test report (enclosure 2) and technical data package (TDP) (enclosure 3) on the ASP Walling System with the restriction detailed in paragraph 3. Currently, this system is one of three being considered for use in separating trucks uploaded with a unit's basic load of ammunition on ammunition holding areas (AHAs).

3. No supporting test data or rationale was included to support the PM-AMMOLOG conclusion, in paragraph 2 of enclosure 1, that similar results would be obtained with all types of munitions. We recommend this review and approval for use of the ASP Walling System be limited to trailers uploaded with a maximum of 2,500 pounds of artillery ammunition as tested.

4. The PM-AMMOLOG office anticipates approval and use of a sand-grid wall in lieu of this ASP Walling System. The sand-grid system promises better blast, fragment, and fireball attenuation. Approval of both systems allows flexibility in situations where material or space is in short supply.

5. Point of contact (POC) is Mr. Gregory Heles, SMCAC-ESL, DSN 585-8877.

FOR THE DIRECTOR:

GARY W. ABRISZ
Chief, Logistics Explosives Safety Division

3 Encls
as

CF (wo/encls):
Office of the Chief of Staff, U.S. Army, ATTN: DACS-SF, Washington, DC 20310-0200
Commander, U.S. Army Safety Center, ATTN: CSSC-PR, Fort Rucker, AL 36362-5363
Commander, U.S. Army Armament, Munitions and Chemical Command, ATTN: AMCPM-AL, Picatinny Arsenal, NJ 07806-5000

DEPARTMENT OF THE ARMY
OFFICE OF THE PROJECT MANAGER FOR AMMUNITION LOGISTICS
PICATINNY ARSENAL, N.J. 07806-5000

AMCPM-AL

11 SEP 1989

MEMORANDUM FOR Director, U.S. Army Defense Ammunition Center and School,
ATTN: SMCAC-ES (Mr. Gary Abrisz), Savanna, IL 61704-9639

SUBJECT: Barrier for Truck Protection

1. Enclosed is a copy of the Technical Data Package (TDP) for the construction of the Agan Steel Panel (ASP) barrier (encl 1) which may be used to protect truck loads of ammunition in close proximity to each other. The contractor prepared detailed test results were distributed to your organization representative and the Department of Defense Explosive Safety Board (DDESB) representative at the Quickload In-Process Review (IPR) held at Picatinny Arsenal on 29 August.

2. The initial intent of testing this barrier was to solve the problem of uploaded trucks containing combat loads (mixed ICM & HE/propellant) of artillery ammunition. The full scale tests were conducted to illustrate that we have solved this problem. However, further analysis indicates that this barrier could be used to separate truckloads of any type ammunition which has a NEW of 2500 pounds or less.

3. We believe that this barrier will increase the safety of the current situation in Korea by reducing the MCE and therefore is of value. This barrier also has potential application to other locations/situations worldwide.

4. Subsequent to the full scale tests of this barrier, we have tested two other barrier designs: a simpler concrete barrier and a Corps of Engineers (COE) sand-grid wall system. The outcome of the test on the COE sand-grid wall indicates much less damage to the adjacent truck. As a result, we are going to conduct two more full scale tests on the sand-grid wall in order to request approval by the DDESB. We hope to conduct these tests and submit a TDP in early FY90.

5. Based on the above discussion, we request that you forward the TDP to the Department of Defense Explosive Safety Board (DDESB) for approval. However, when you distribute the TDP to the field, please make them aware that we anticipate approval of the sand-grid wall, which has some advantages over the ASP barrier (ease of construction, cost, effectiveness, etc.).

6. If you have any questions, feel free to contact me at AV 880-2262.

Encl

DUANE S. SCARBOROUGH
Artillery Systems Project Officer

Encl 1

CF:
Director, U.S. Army Ballistic Research Laboratory, ATTN: SLCBR-TB-EE
(Mr. J. Watson), Aberdeen Proving Ground, MD 21005-5066